

Work Order ID 52094 - 2

September 16, 2009 9:58:16 AM



Pb

Page 1

Item ID: D3943-3

Revision ID: A

Item Name: Handle Extension

Start Date: 09/16/2009 Start Qty: 2.00

Required Date: 09/25/2009 Req'd Qty: 2.00

Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Approvals: Process Plan: MF

Date: 09-09-16 Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

100



Waterjet

FLOW CNC Waterjet

Memo

1-Cut as per Dwg D3943

Dwg Rev: A

Prog Rev: A

2-Deburr if necessary

0.00

0.00

0.00

0.00

mat not pulled

IB 9-9-17

Deburr m-h on 09/26

3x

IB 9-9-17

110



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
		Split for 3 parts		8/2/13	13			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 52094

September 16, 2009 9:58:16 AM

Page 2

Item ID: D3943-3

Accept

Setup Start

Revision ID: A

Stop

Item Name: Handle Extension

Start Date: 09/16/2009 Start Qty: 2.00

Cust Item ID:

Required Date: 09/25/2009 Req'd Qty: 2.00

Customer:

Reference:

Run Start

Approvals: Process Plan: Date:

Tooling:

Date:

Stop

QC: Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

QC8- Inspect parts - second check

0.00

⇒ 801/02/17

(X4)

(P/D) ⇒

120



QC

Memo

Quality Control

Manufacture as per dwg

0.00

0.00

M.A 09/09/27

~~3~~ 1 090917
3 0

130



Mill Conv

Memo

Conventional Milling Machine

1-MILL DIMPLE USING 3/8" BALL

QC5- Inspect part completeness to step on W/O

0.00

0.00

⇒ 801/02/22

(X3)

140



QC

Memo

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3943-3 ^{7-041 → 5412-783-011} PAR #: _____ Fault Category: Prod-Machined parts NCR: Yes No DQA: / Date: 05.10.05
 Resolution: re-work Disposition: use as is ^{Re-work} QA: N/C Closed: / Date: 05.10.05

NCR: 52094		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
9/9/17	#130	when machining operator put part in wrong orientation while milling ^{Dimple} for "Ball Plunger" R.C. Lack of Attention	<u>/</u> 05/10/17	Fill with weld per Q1004 & ground flush. chill as per drawing. re-machine	<u>/</u> 09.09.25 H. A 09/09/28	<u>S</u> 09/09/28	<u>/</u> 05/10/17	<u>S</u> 09/09/28

NOTE: Date & initial all entries

Work Order ID 52094

September 16, 2009 9:58:16 AM

Item ID: D3943-3

Revision ID: A

Item Name: Handle Extension

Start Date: 09/16/2009 Start Qty: 2.00

Required Date: 09/25/2009 Req'd Qty: 2.00

Reference:

Approvals: Process Plan:

QC:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Setup Start

Stop

Run Start

Stop

Sequence ID/
Work Center ID

50

Powdercoat

Powder Coating

Operation
Description

White Gloss(Ref:4.3.5.2) per QSI005 4.3-Steel

Memo

POWDER COAT:

Start Time: 11:00 AM

Oven Temperature: 400°F

Finish Time: 11:30 AM

M112260

QC3- Inspect Part Finish

Memo

160

QC

Quality Control

0.00

0.00

0.00

0.00

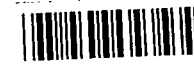
Identify as per dwg & Stock Location: _____

Memo

170

Packaging

Packaging



Cust Item ID:

Customer:

Set Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

0.00

0.00

0.00

0.00

0.00

0.00

X3

P

7 LD 09/10/01

BL 09-10-1

3

9/10/1 BWS

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 52094

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Item ID: D3943-3

Revision ID: A

Item Name: Handle Extension

Start Date: 09/16/2009 Start Qty: 2.00

Required Date: 09/25/2009 Req'd Qty: 2.00

Reference:

Accept

Cust Item ID:

Customer:

Setup Start

Stop

Approvals:

Process Plan:

Date:

QC:

Date:

Tooling:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/
Work Center ID

Operation
Description

QC21- Final Inspection - Work Order Release

180

QC

Quality Control

Memo

Set Up/
Run Hours

0.00

Draw
Number

0.00

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

09/10/05

RL 09-10-1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 11:09:38 AM

Page 1

Work Order ID: 52094

Parent Item: D3943-3RevA

Parent Item Name: Handle Extension


Comments:

Start Date: 09/16/2009

Required Date: 09/25/2009

Start Qty: 4.00

Required Qty: 4.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
M1010B0.500X03.000		Purchased	No				f	0.0000	5.0400			
												
1010-1025 BAR.500"x3.00"												



AB 9-9-17

m 108336

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 52094
Description: HANDLE EXTENSION		Part Number: D3943-3
Inspection Dwg: D3943	Rev: A	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.87	+/- .030	0.871	✓			
R0.44	+/- .030	R0.44	✓			
0.31	+/- .030	0.310	✓			
0.13	+/- .030	0.132	✓			
14.50	+/- .030	14.50	✓			
13.38	+/- .030	13.370	✓			
6.06	+/- .030	6.055	✓			
4.25	+/- .030	4.25	✓			
2.75	+/- .030	2.75	✓			
0.56	+/- .030	0.545	✓			
0.50	+/- .030	0.503	✓			
1.63	+/- .030	1.615	✓			
R0.06	+/- .030	R0.06	✓			
159° (ref)	+/- 1/2°	159°	✓			
Ø 0.30	+/- .030	Ø 0.307	✓			
0.40	+/- .030	0.393	✓			
R0.20	+/- .030	R0.1875	✓			
0.06	+/- .030	0.065	✓			
0.28 (ref)	+/- .030	0.285	✓			
0.25	+/- .030	0.25	✓			
Ø 0.37	+/- .030	Ø 0.366	✓			
0.810	+/- .030	0.810	✓			

Measured by: J.A	Audited by: SA	Prototype Approval: N/A
Date: 09/09/27	Date: 09/09/27	Date: N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

ITEM No.	QTY -041	QTY -051	QTY -053	PART NUMBER	DESCRIPTION	PREFERED SUPPLIER
1	X			D3943-041	GROUND HANDLING CRANK ASSEMBLY	
5	1	X		D3943-051	HANDLE ASSEMBLY	
6	1		X	D3943-053	CHAIN ASSEMBLY	
11		1		D3943-1	HANDLE	M/F HANDLE FROM DIS-ASSEMBLED ITEM 39
12	1			D3943-3	HANDLE EXTENSION	
13		1		D3943-5	PLATE	
14		2		D3943-7	STUD	
15			1	D3943-9	CHAIN	USE CHAIN SUPPLIED WITH ITEM 39
21	1			D2690-4	LANYARD	
22	1			D3585-1	SET SCREW	
23	1			D3949-041	REMOVE BEFORE FLIGHT FLAG	
24			1	D3954-5	CHAIN LUG	
25	1			D3954-7	RATCHET LUG	
26			1	D3954-9	GWT CHAIN PIN	
31	1			AN4-10A	BOLT	
32	1			AN960-416	WASHER	
33	1			MS21042-4	NUT	
39	1			8143919	LEVER CHAIN HOIST (POWER FIST)	PRINCESS AUTO / 4000 lbs CAPACITY
41	1			S-1475	SPRING	REID SUPPLY
42	1			3408A59	BALL PLUNGER	McMASTER CARR
43	3			HX-15	SOCKET HEAD CAP SCREW 1/4-20 UNC X 0.75 LG	HASKINS

5 2014

RELEASED
9/16/13 N/A

A	NEW ISSUE	AJS	09.05.13
REV.	DESCRIPTION	BY	DATE
DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS	DRAWING NO.	REV. A
CHECKED		D3943	SHEET 1 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.	N/A	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DATE	09.05.13		

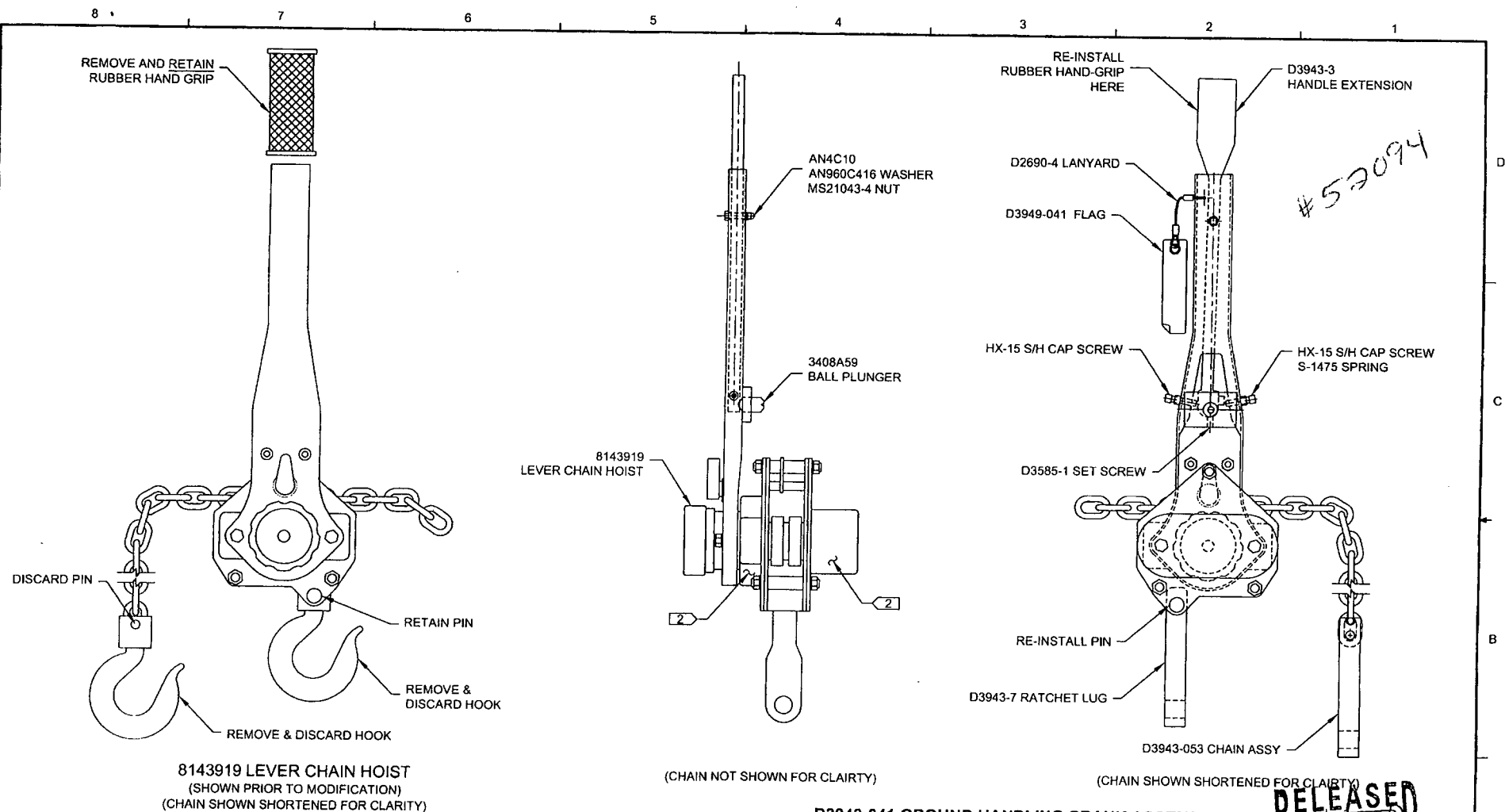
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3943-041 GROUND HANDLING CRANK ASSEMBLY

NOTES -041:

- 1) MATERIAL: N/A
- 2) FINISH: DISASSEMBLE LEVER CHAIN HOIST (ITEM 39) AND POWDER COAT "RED" (4.3.5.10) PER DART QSI 005 4.3 PARTS INDICATED
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3943-041" USING FINE POINT PERMANENT INK MARKER

DESIGN	DSTOW/AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3943	SHEET 2 OF 5
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DE APPR.		GROSS WEIGHT TOW CRANK ASSY	NTS
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09/05/13

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

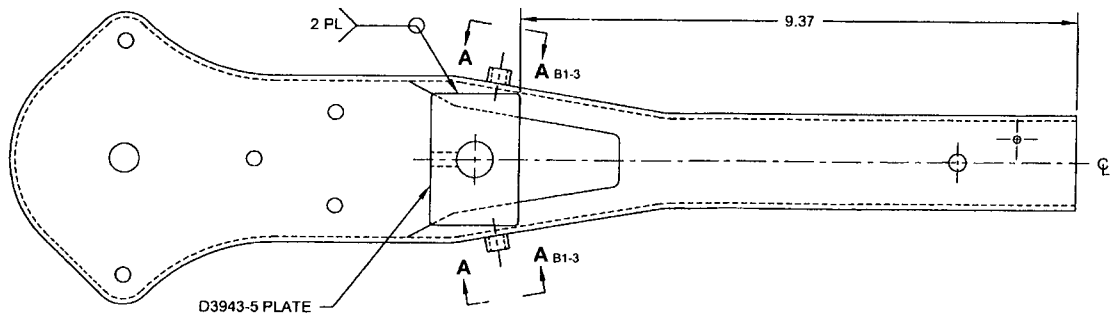
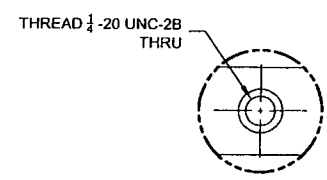
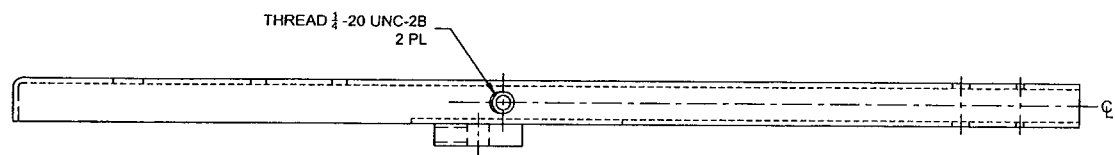
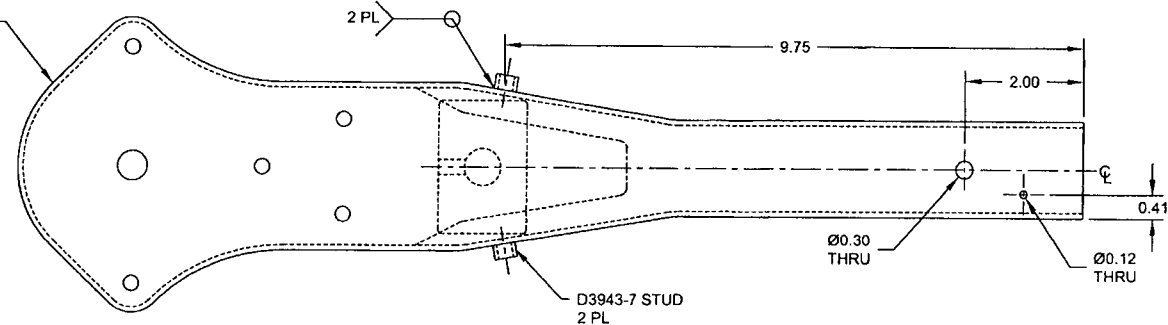
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

#53094



VIEW A-A A5-3
(SCALE 2X) B5-3

RELEASED
09/05/13

NOTES -051:

- 1) MATERIAL : N/A
- 2) FINISH: POWDER COAT "RED" (4.3.5.10) PER DART QSI 005 4.3
- 3) TOLERANCES: X.XX DIMENSIONS +/- 0.06 ALL OTHERS PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) MASK ALL THREADS PRIOR TO POWDER COATING

D3943-051 HANDLE ASSEMBLY

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3943	SHEET 3 OF 5
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DATE	09.05.13	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

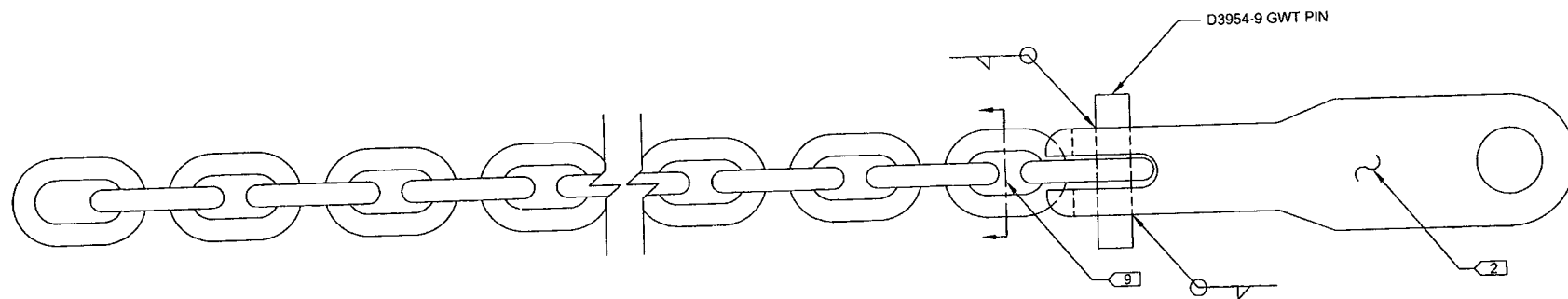
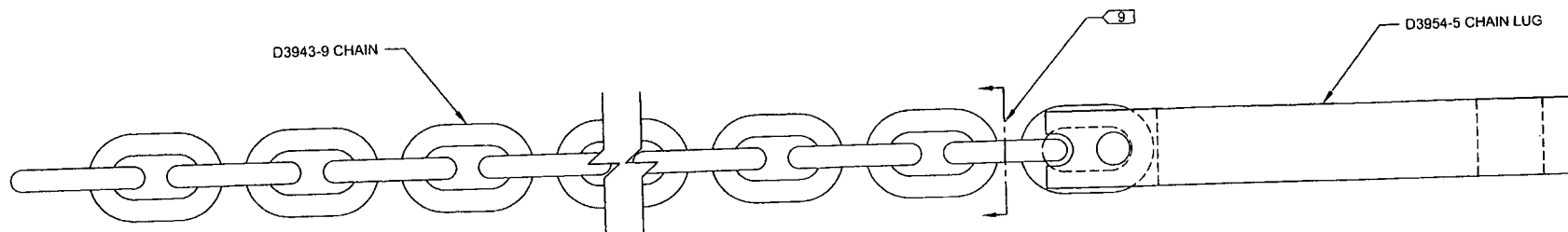
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

#52094



D3943-053 CHAIN ASSEMBLY

RELEASED
09/16/13 JWB

NOTES -053:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) WELD PER QSI 004
- 9) MASK CHAIN FROM THIS POINT ON PRIOR TO POWDER COATING

DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS	DRAWING NO.	REV. A
CHECKED		D3943	SHEET 4 OF 5
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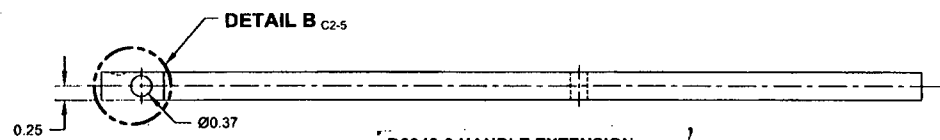
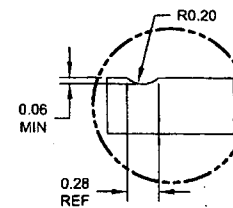
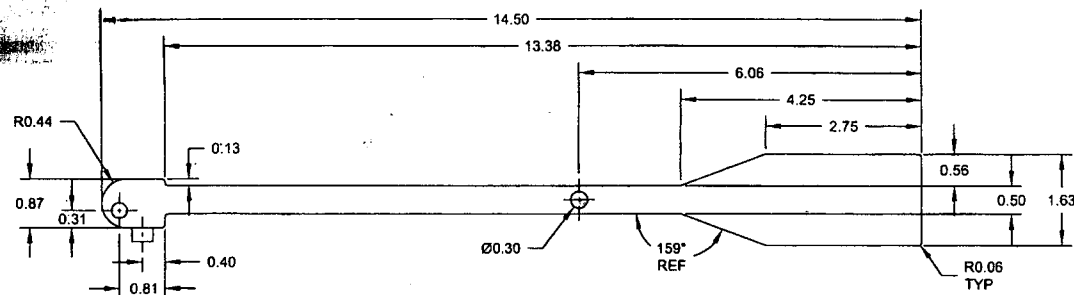
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

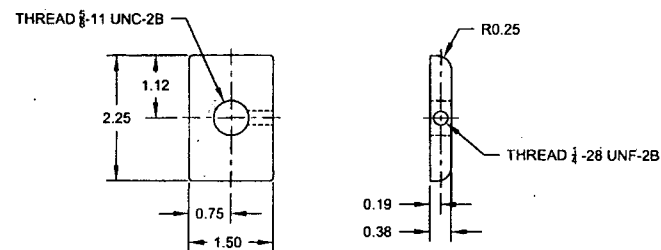
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

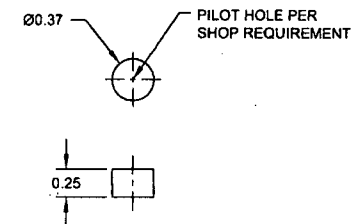
NOTE: Date & initial all entries



D3943-3 HANDLE EXTENSION



D3943-5 PLATE



D3943-7 STUD
(SCALE 2X)

NOTES -11/-13:

1) MATERIAL -3 & -5: MILD STEEL, SHEET
 AISI 1010-1025 OR ASTM A36/A366/A1008
 OR CSA G40-21, 38W/44W/50W/60W/70W
 REF DART SPEC M1010-S

OR: MILD STEEL, BAR
 AISI 1010-1025 OR ASTM A36/A366/A569/A570
 OR CSA G40-21, 38W/44W/50W/60W/70W
 REF DART SPEC M1010-B

-7: MILD STEEL, ROUND BAR
 AISI 1018-1025
 PER MIL-S-7097
 REF DART SPEC M1018-R

- 2) FINISH -3: POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3 PARTS INDICATED *
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A

RELEASED
 09/15/09

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3943	SHEET 5 OF 5
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